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An Inventory of Sources and Environmental Releases of Dioxin-  
Like Compounds in the United States for the Years 1987, 1995,  
and 2000

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## ABSTRACT

The purpose of this document is to present a comprehensive inventory and overview of sources and environmental releases of dioxin-like compounds in the United States. The major identified sources of environmental releases of dioxin-like compounds are grouped into six broad categories: combustion sources, metals smelting, refining and process sources, chemical manufacturing sources, natural sources, and environmental reservoirs. Estimates of annual releases to land, air, and water are presented for each source category and summarized for reference years 1987, 1995, and 2000. The quantitative results are expressed in terms of the toxicity equivalence (TEQ) of the mixture of polychlorinated dibenzo-*p*-dioxin (CDD) and polychlorinated dibenzofuran (CDF) compounds present in environmental releases using a procedure sanctioned by the World Health Organization (WHO) in 1998. This TEQ procedure translates the complex mixture of CDDs and CDFs characteristic of environmental releases into an equivalent toxicity concentration of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (2,3,7,8-TCDD), the most toxic member of this class of compounds. Using this WHO procedure, the annual releases of TEQ<sub>DF</sub>-WHO<sub>98</sub> to the U.S. environment over the three reference years are 13,965 g in 1987, 3,444 g in 1995, and 1,422 g in 2000. This analysis indicates that between reference years 1987 and 2000, there was approximately a 90% reduction in the releases of dioxin-like compounds to the circulating environment of the United States from all known sources combined. In 1987 and 1995, the leading source of dioxin emissions to the U.S. environment was municipal waste combustion; however, because of reductions in dioxin emissions from municipal waste combustors, it dropped to the fourth ranked source in 2000. Burning of domestic refuse in backyard burn barrels remained fairly constant over the years, but in 2000, it emerged as the largest source of dioxin emissions to the U.S. environment.

### Preferred Citation:

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